

Wireless Bipolar Power Transistor 45W, 1930-1990 MHz

M/A-COM Products
Released - Rev. 07.07

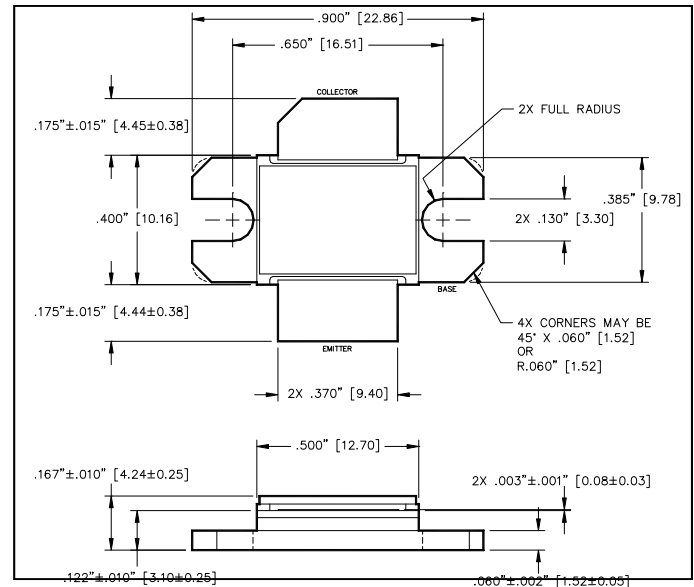
Features

- NPN silicon microwave power transistor
- Common emitter class AB operation
- Internal input and output impedance matching
- Diffused emitter ballasting
- Gold metallization system

ABSOLUTE MAXIMUM RATING AT 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	5.5	A
Power Dissipation	P_D	100	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to + 150	°C
Thermal Resistance	θ_{JC}	1.3	°C/W

Outline Drawing



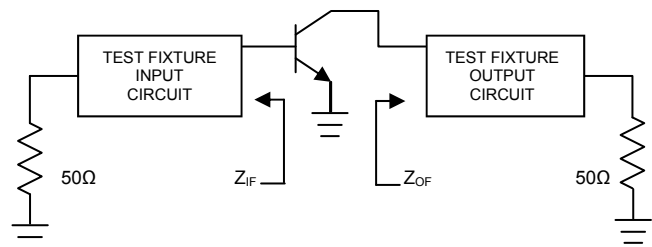
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES $\pm .005$ " [MILLIMETERS $\pm 0.13\text{mm}$]

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Power Gain	G_P	8	-	dB	$V_{CC} = 25\text{V}$, $I_{CQ} = 200\text{ mA}$, $P_{out} = 45\text{ W}$, $F = 1930, 1990\text{ MHz}$
Collector Efficiency	η_C	40	-	%	$V_{CC} = 25\text{V}$, $I_{CQ} = 200\text{ mA}$, $P_{out} = 45\text{ W}$, $F = 1930, 1990\text{ MHz}$
Input Return Loss	RL	10	-	dB	$V_{CC} = 25\text{V}$, $I_{CQ} = 200\text{ mA}$, $P_{out} = 45\text{ W}$, $F = 1930, 1990\text{ MHz}$
Load Mismatch Tolerance	VSWR	-	3:1	-	$V_{CC} = 25\text{V}$, $I_{CQ} = 200\text{ mA}$, $P_{out} = 45\text{ W}$, $F = 1930, 1990\text{ MHz}$

BROADBAND TEST FIXTURE IMPEDANCES

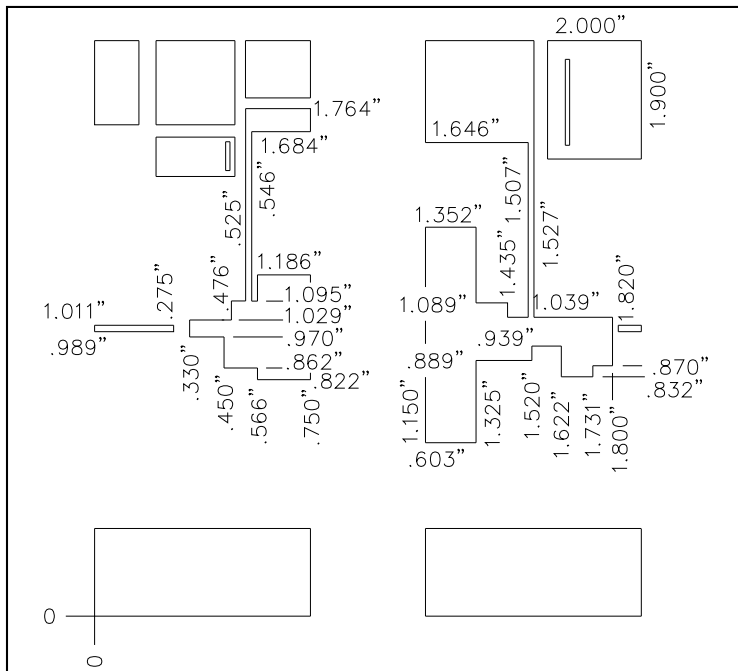
F (GHz)	$Z_{IN} (\Omega)$	$Z_{LOAD} (\Omega)$
1930	$2.8-j5.5$	$4.8-j1.1$
1960	$2.7-j5.4$	$5.0-j1.3$
1990	$2.6-j5.3$	$5.2-j1.5$



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TEST FIXTURE DIMENSIONS



TEST FIXTURE ASSEMBLY

